

What Is Claimed Is:

1. A composition for forming an electrically conductive antistatic layer comprises:

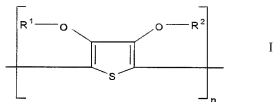
- electronically conductive polymer particles;
- a neutral-charge conductivity enhancer; and
- a hydrophilic polymeric binder.

2. A composition as in claim 1 wherein said electronically conductive polymer particles comprise from 5 to 95 weight % of the total weight of the composition.

3. A composition as in claim 1 wherein said neutral-charge conductivity enhancer is present in an amount of from 0.02 to 90 weight % based on the total weight of the composition.

4. A composition as in claim 1 wherein said electronically conductive polymer particles comprise a pyrrole-, thiophene-, or aniline-containing polymer.

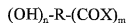
5. A composition as in claim 1 wherein said composition comprises electronically conductive polymer particles of a polythiophene present in a cationic form with a polyanion, said polythiophene comprising recurring units defined by the following Formula I wherein R_1 and R_2 are independently hydrogen or a substituted or unsubstituted alkyl group having 1 to 4 carbon atoms, or together form a substituted or unsubstituted group or a substituted or unsubstituted 1,2-cyclohexylene group.



Polythiophene Formula (I)

6. A composition as in claim 1 wherein said neutral-charge conductivity enhancer is:

(A) represented by the following Structure II:



II

wherein m and n are independently an integer of from 1 to 20, R is an alkylene group having 2 to 20 carbon atoms, an arylene group having 6 to 14 carbon atoms in the arylene chain, a pyran group, or a furan group, and X is -OH or -NYZ, wherein Y and Z are independently hydrogen or an alkyl group, or

(B) a sugar, sugar derivative, polyalkylene glycol, or glycerol compound.

7. A composition as in claim 6 wherein said neutral-charge conductivity enhancer is a N-methylpyrrolidone, pyrrolidone, caprolactam, N-methylcaprolactam, N-octylpyrrolidone, sucrose, glucose, fructose, lactose, sugar alcohol, 2-furan carboxylic acid, 3-furan carboxylic acid, sorbitol, glycol, ethylene glycol, glycerol, diethylene glycol, or triethylene glycol, or a mixture of any two or more of these compounds.

8. A composition as in claim 7 wherein said neutral-charge conductivity enhancer is N-methylpyrrolidone, pyrrolidone, caprolactam, N-methyl caprolactam, or N-octylpyrrolidone.

9. A composition as in claim 1 wherein said neutral-charge conductivity enhancer is ethylene glycol, diethylene glycol or glycerol.

10. A composition as in claim 5 wherein said polyanion is polystyrene sulfonic acid.

11. A composition as in claim 1 wherein said neutral-charge conductivity enhancer is one or more than one compound selected from the group consisting of N-methylpyrrolidone, sorbitol, ethylene glycol, glycerol, and diethylene glycol.

12. A composition as in claim 1 wherein said neutral-charge conductivity enhancer is ethylene glycol, glycol or glycerol.

13. A composition as in claim 1 wherein said hydrophilic binder comprises a water-dispersible or water-soluble polymer.

14. A composition as in claim 1 wherein said hydrophilic binder comprises carboxymethyl cellulose, hydroxyethyl cellulose, cellulose acetate butyrate, diacetyl cellulose, or triacetyl cellulose or other hydrophilic cellulose derivatives.

15. A composition as in claim 1 wherein said hydrophilic binder comprises polyvinyl alcohol, poly-N-vinylpyrrolidone, acrylic acid copolymers, polyacrylamide or their derivatives or partially hydrolyzed products, or other hydrophilic synthetic resins.

16. A composition as in claim 1 wherein said hydrophilic polymeric binder is gelatin or a derivative thereof.

17. A composition as in claim 1 wherein said electronically conductive polymer particles exhibit a packed powder specific resistivity of 10^5 ohm-cm or less.

18. A composition as in claim 1 wherein said electronically conductive polymer particles have a mean diameter of 0.5 μm or less.

19. A composition as in claim 1 wherein said electronically conductive polymer particles have a mean diameter of 0.1 μm or less.